

ABSTRACT OF THE DISCLOSURE

One or more single mode waveguide devices are fiber coupled such that signals to an optical element affect the coupling of the waveguide device to an optical fiber. A number of systems and methods are disclosed to adjust the coupling of the waveguide device to the optical fiber. These include dithering the tunable optical element at different frequencies along differing axes and using a lock-in technique to derive an error signal for each degree of motion, using a beamsplitter to form a secondary image of the focused beam on a position-sensitive detector, the use of a chiseled fiber to generate reflections from the angled facets, using an additional laser for a secondary image, or obtaining a secondary image from an angled fiber or a parasitic reflection.